FIG.1
Prior Art

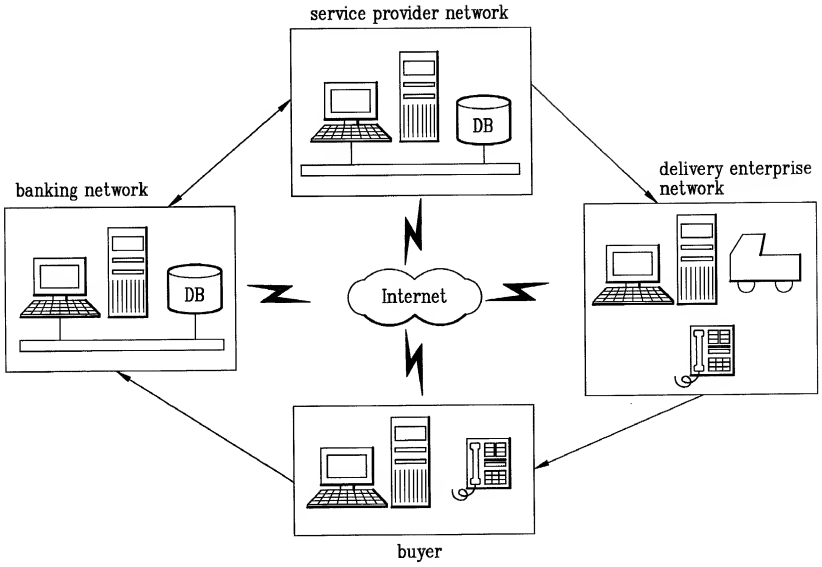

FIG.2
Prior Art

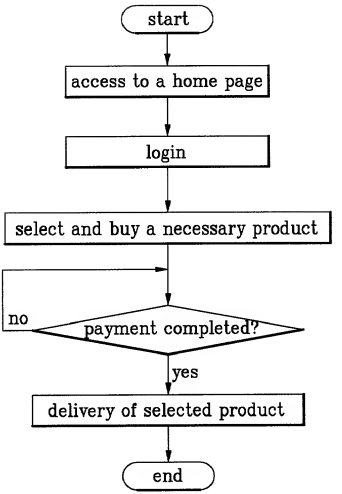

FIG.3
Prior Art

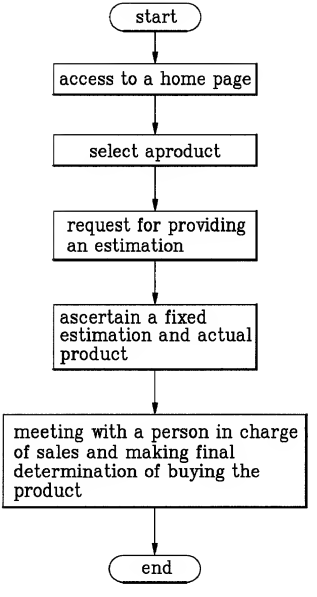

FIG. 4

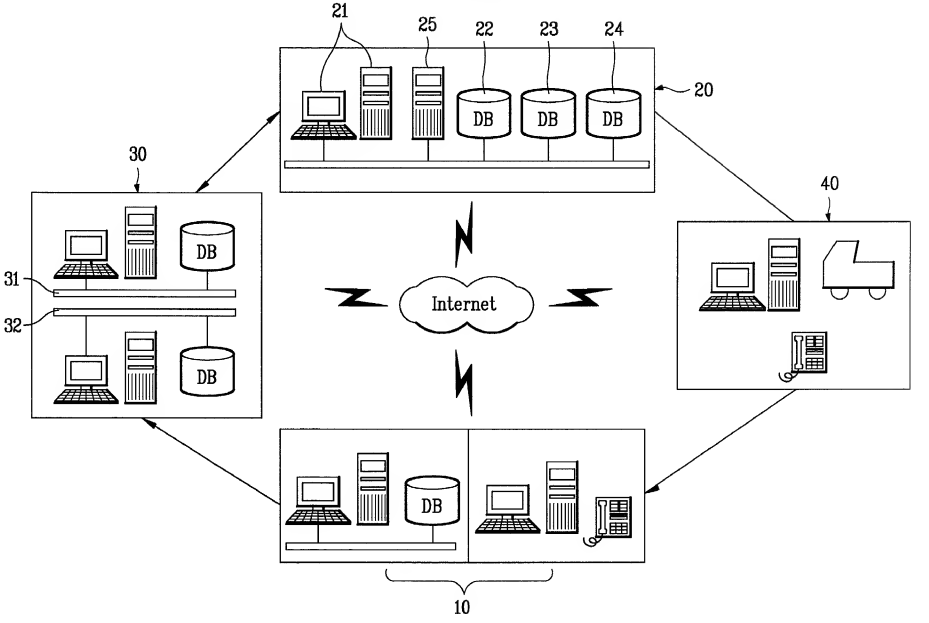

FIG.5

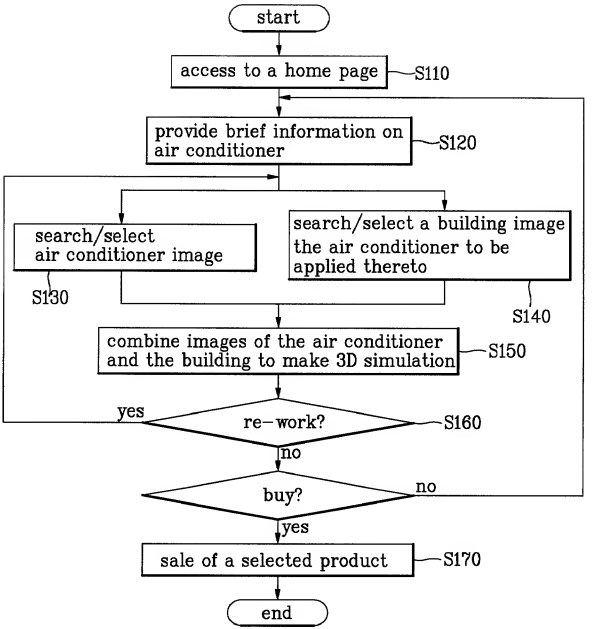
start
access to a home page
S110
provide brief information on air conditioner
S120
search/select air conditioner image
S130
search/select a building image the air conditioner to be applied thereto
S140
combine images of the air conditioner and the building to make 3D simulation
S150
yes
re-work?
S160
no
buy?
no
yes
sale of a selected product
S170
end

FIG.6

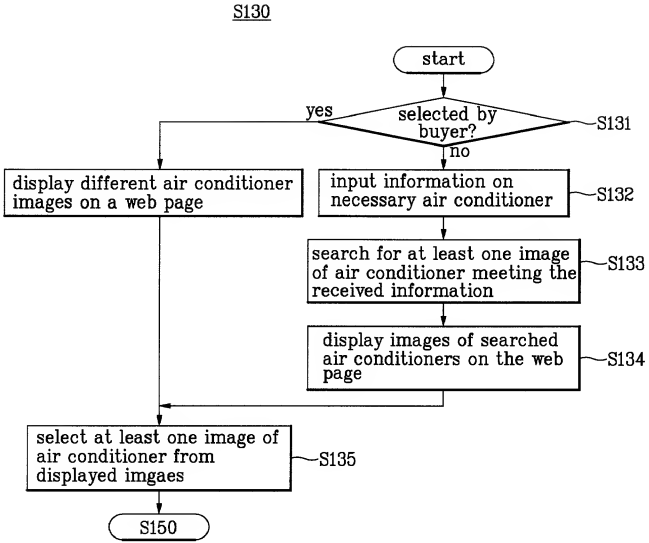
S130
start
selected by buyer?
S131
yes
no
display different air conditioner images on a web page
input information on necessary air conditioner
S132
search for at least one image of air conditioner meeting the received information
S133
display images of searched air conditioners on the web page
S134
select at least one image of air conditioner from displayed imgaes
S135
S150

FIG. 7

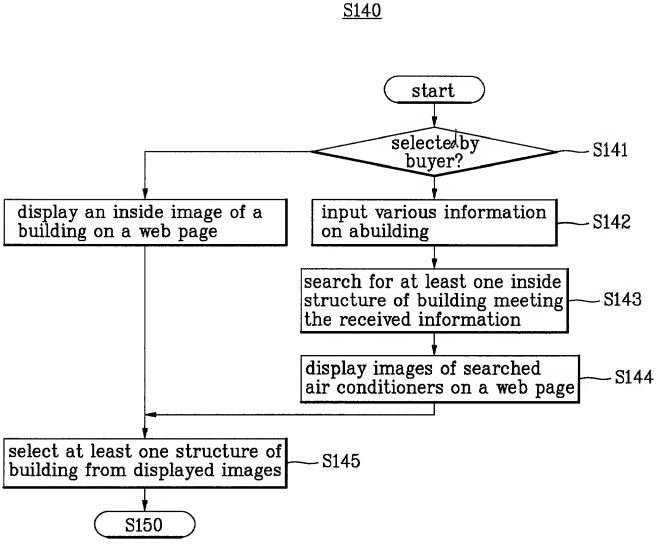
S140
start
selected by buyer?
S141
display an inside image of a building on a web page
input various information on abuilding
S142
search for at least one inside structure of building meeting the received information
S143
display images of searched air conditioners on a web page
S144
select at least one structure of building from displayed images
S145
S150

FIG.8

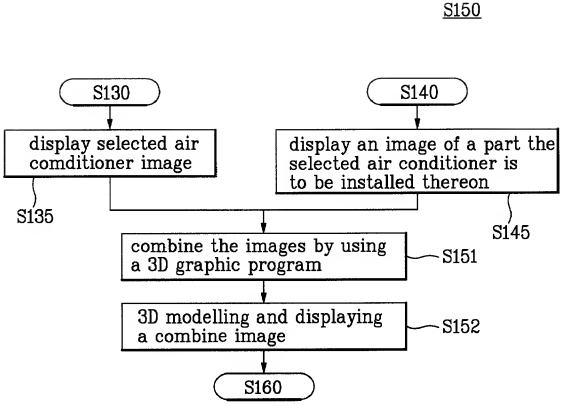
S150
S130
S140
display selected air comditioner image
display an image of a part the selected air conditioner is to be installed thereon
S135
S145
combine the images by using a 3D graphic program
S151
3D modelling and displaying a combine image
S152
S160

FIG.9

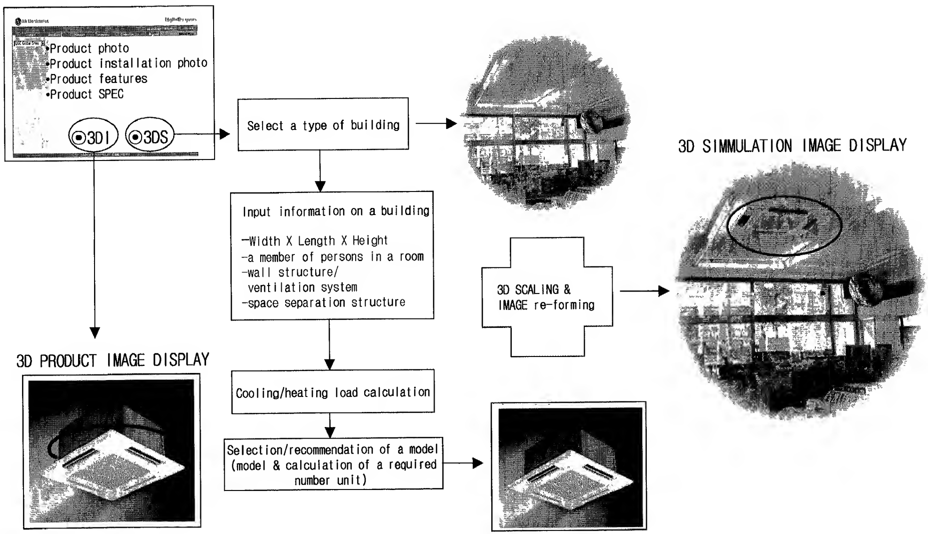
•Product photo
•Product installation photo
•Product features
•Product SPEC
3DI
3DS
3D PRODUCT IMAGE DISPLAY
Select a type of building
Input information on a building
-Width X Length X Height
-a member of persons in a room
-wall structure/
ventilation system
-space separation structure
Cooling/heating load calculation
Selection/recommendation of a model (model & calculation of a required number unit)
3D SCALING & IMAGE re-forming
3D SIMMULATION IMAGE DISPLAY

FIG.10

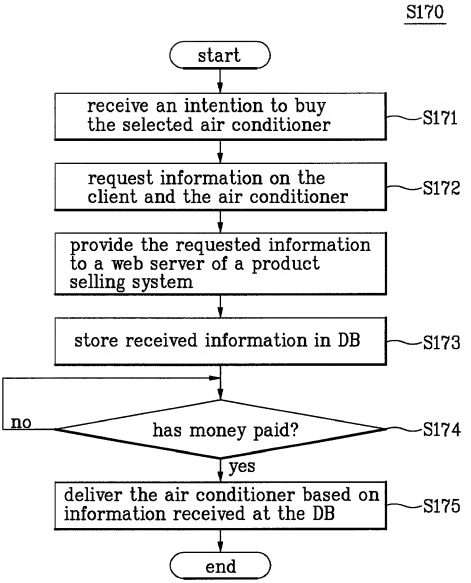
S170
start
receive an intention to buy the selected air conditioner
S171
request information on the client and the air conditioner
S172
provide the requested information to a web server of a product selling system
store received information in DB
S173
no
has money paid?
S174
yes
deliver the air conditioner based on information received at the DB
S175
end

FIG.11

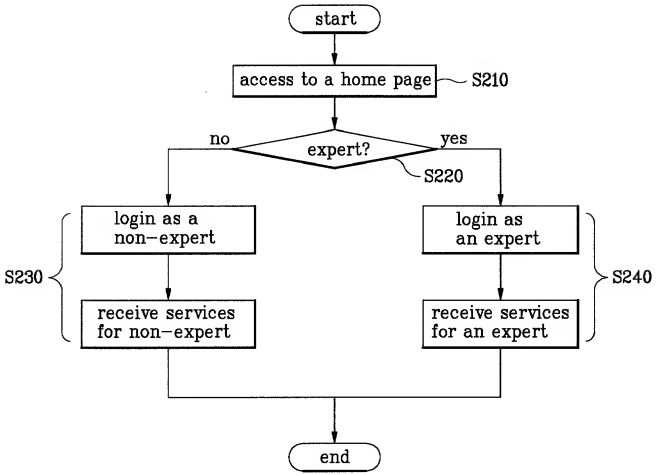
start
access to a home page
S210
expert?
no
yes
S220
login as a non-expert
login as an expert
S230
S240
receive services for non-expert
receive services for an expert
end

FIG.12

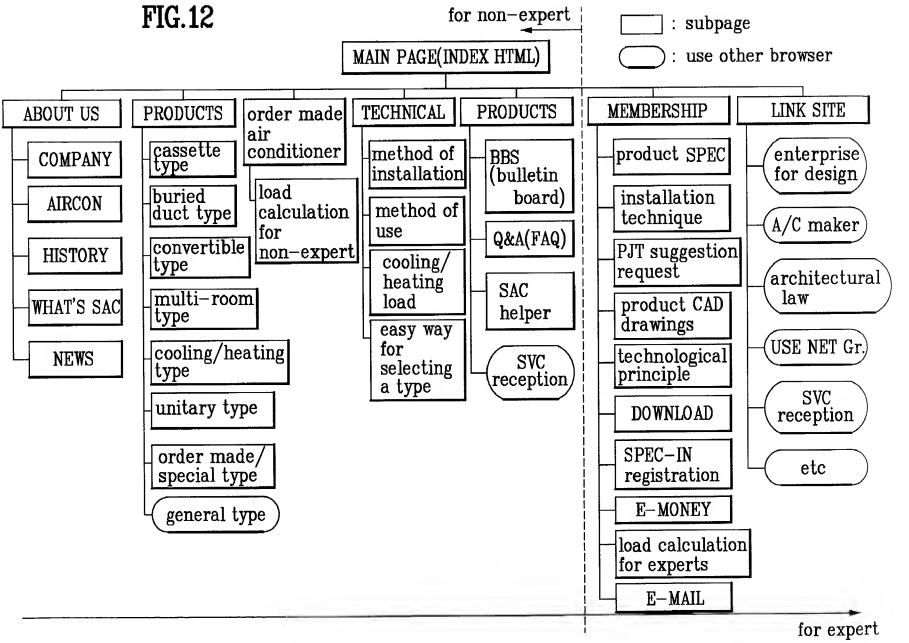

FIG.13

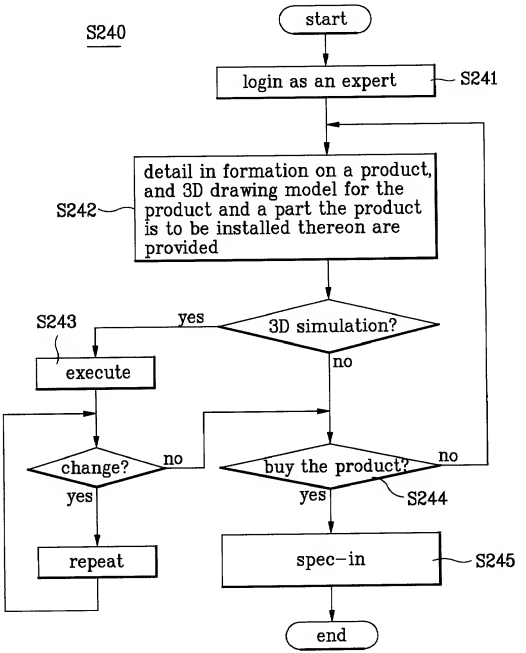
S240
start
login as an expert
S241
detail in formation on a product, and 3D drawing model for the product and a part the product is to be installed thereon are provided
S242
3D simulation?
yes
S243
execute
no
change?
no
yes
repeat
buy the product?
no
yes
S244
spec-in
S245
end

FIG.14

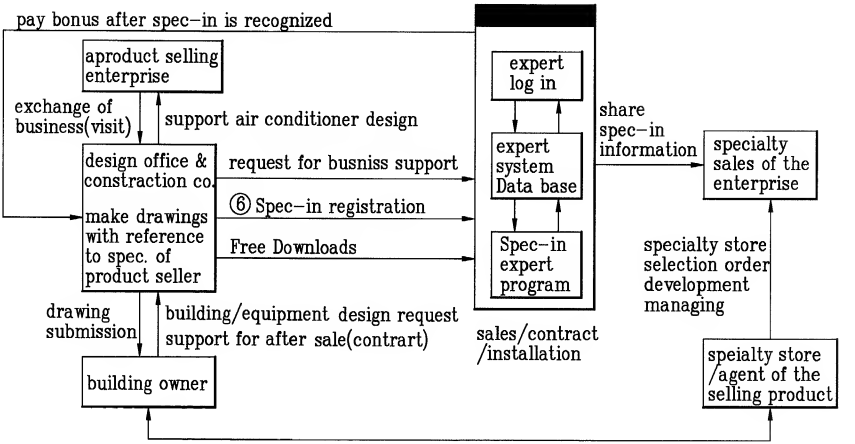

FIG.15

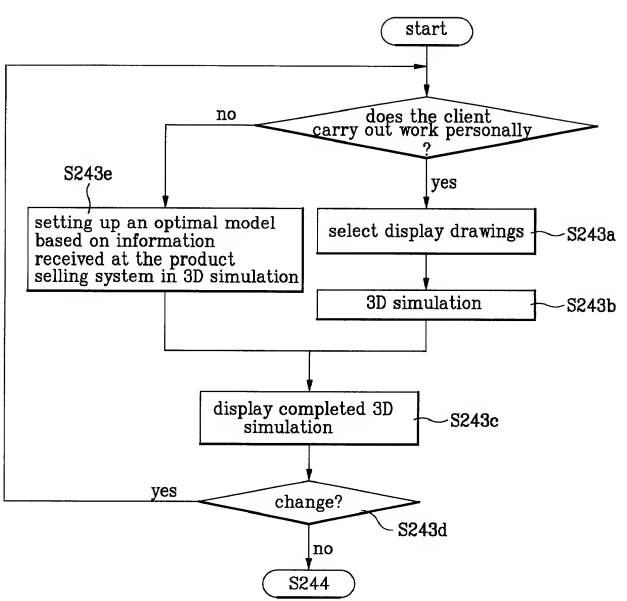
S243
start
does the client carry out work personally ?
no
yes
S243e
setting up an optimal model based on information received at the product selling system in 3D simulation
select display drawings
S243a
3D simulation
S243b
display completed 3D simulation
S243c
change?
yes
S243d
no
S244

FIG.16

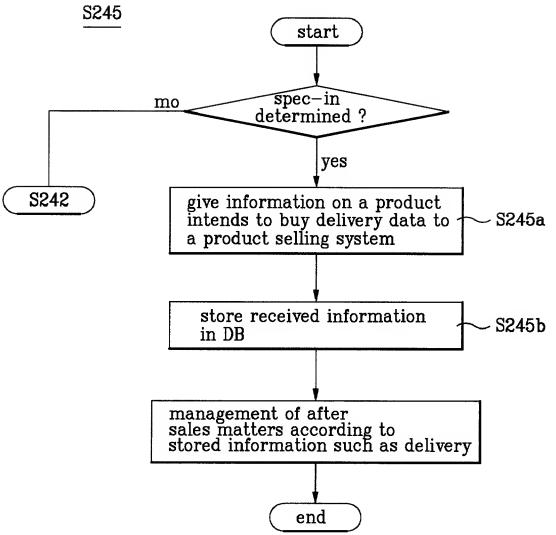
S245
start
spec-in determined ?
mo
yes
S242
give information on a product intends to buy delivery data to a product selling system
S245a
store received information in DB
S245b
management of after sales matters according to stored information such as delivery
end

FIG. 17

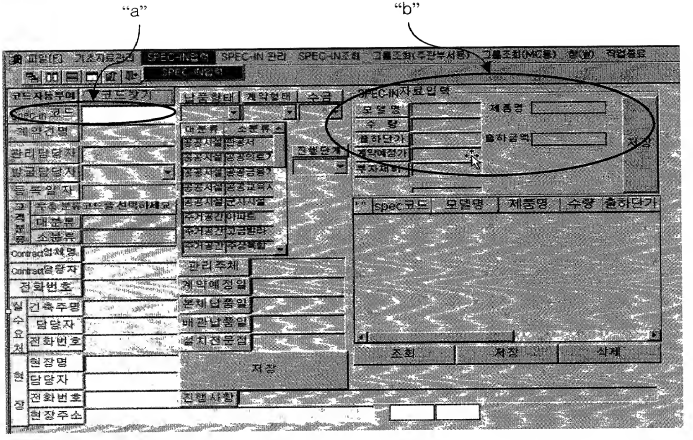
"a"
"b"
SPEC-IN 관리
SPEC-IN 조회
그룹조회(수정부서용)
그룹조회(MC용)
SPEC-IN자료입력
SPEC코드
모델명
제품명
수량
출하단기
조회
저장
삭제

FIG.18

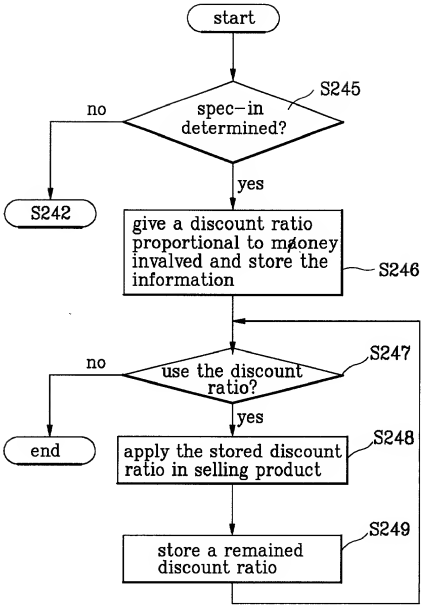

FIG.19A

◆heat transfer loss–inside surface,floor(except outside wall and roof) ⑤					
item	direction coetticient	area	temperature difference	K	heating load
cieling	(A)	cb	⑤	cj	(D)
floor	(A)	cc	⑤	ck	(D)
partition	(A)	cd	⑤	cl	(D)

◆room heat loss–ventilation				
item	air volume	temperature difference	coefficient	heating load
ventilation	(A)	⑤	0.288	(F)

◆room heat loss–ventilation				
item	coefficient	absolute humidity difference	air volume	amount of added
amount	1.2	⑨	(E)	(F)
load	moist amount*600		(H)	

◆heating load	sum	Total

FIG.19A

◆heat transfer loss–glass

item	direction coefficient	area	temperature difference	K	heating load
glass	(A)	y	⑤	ci	(B)
	(A)	y	⑤	ci	(B)
	(A)	y	⑤	ci	(B)
	(A)	y	⑤	ci	(B)

◆heat transfer loss–outside wall

item	direction coetticient	area	temperature difference	K	heating load
outside wall	(A)	bf	⑤	bp	(C)
	(A)	bg	⑤	bq	(C)
	(A)	bh	⑤	br	(C)
	(A)	bi	⑤	bs	(C)
roof	(A)	bj	⑤	bt	(C)

(A) : direction coefficient

(B) : direction coefficient * area * temperature difference * K

(C) : direction coefficient * area * temperature difference * K

(D) : direction coefficient * area * temperature difference * K

(E) : number ventilation air change

(F) : air volume * temperature difference * coefficient

(G) : coefficient * absolute humidity difference * air volume

(H) : amount of added moist * 600

Total : (B)+(C)+(D)+(F)+(H)

FIG.19B

□ heat generation from other apparatuses(kcal/hr)

apparatus	sensible heat	latent heat	remark
lighting, electric heater(per kw)	860	–	
fluorescent lamp(per kw)	1,000	–	
coffee pot 1.0Lit(GAS)	100	25	
toaster 15 x 28 x 23cm(electric heat)	610	110	
domestic stove	1,800	200	
hair dryer for beauty parlor(115v)	470	80	
motor(94~375w)	1,060	–	
motor(0.375~2.25kw)	920	–	
motor(2.25~15kw)	740	–	
refrigerator,fan(0~0.4kw)	1,140	–	
refrigerator,fan(0.75~3.7kw)	1,100	–	
refrigerator,fan(3.7~15kw)	1,000	–	

load of incandescent lamp(kcal/h)=watt×0.86

load of fluorescent lamp(kcal/h)=watt×1.25×0.86
=watt×1.08

the 1.25 times in the load of fluorescent lamp is for a power consumption of ballast

FIG.19C

working state	working state		28(℃)		27(℃)		26(℃)		24(℃)	
	site	total heat generation	(SH)	(LH)	(SH)	(LH)	(SH)	(LH)	(SH)	(LH)
sit on chair	theater	88	44	44	49	39	53	35	58	65
light work	school	101	45	56	49	52	53	48	61	69
office work	office, hotal, depertment store	113	45	68	50	63	54	59	62	72
sit/stand	bank	126	45	81	50	76	55	71	64	73
sit and work	dining room/ quest room	139	48	91	56	83	62	77	71	81
sit and work	light workate factory	189	48	141	56	133	62	127	74	92
general dancing	dance hall	215	56	159	62	153	69	146	82	101
walk(4.8km/h)	factory	252	68	184	76	176	83	169	96	116
bowling	bowling lane	365	113	252	117	248	121	244	132	153